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THREE NEW SPECIES OF SALDIDAE (HEMIPTERA)

BY C. J. DRAKE AND F. C. HOTTES

The present paper contains notes on four species of Saldidae, three of which are described as new. The disposition of types is given beneath the descriptions of the respective species. The left paramere of two species is figured.

Saldula dixonii (Distant)

Salda dixonii Distant, Fauna Brit. Ind., Heterop., 2:405, fig. 258. 1904.

Salda dixonii Distant, Fauna Brit. Ind., 5:221. 1904.

Salda dixonii Breddin, Arch. fur Nat. 78A:86. 1912. (As subgenus of *Chartoscrita*.)

Acanthia balnearum Bergroth, Philip. Jr. Sci., 13(D3):123. 1918. (New Synonymy.)

A study of numerous specimens of *S. balnearum* Bergroth from Luzón (including specimens in Baker's collection bearing same label as type) and specimens of *S. dixonii* Distant from India (Brit. Mus.) has shown that these two names apply to the same species of shore bug. Since *dixonii* has priority by several years, it becomes the valid name of the species. Many other specimens have been examined, from Formosa, Japan, Philippines (Luzón, Mindanao, Mindoro and Sámar), Solomon Islands, Borneo, Celebes, Ceylon, Larut, and Africa (Senegal and Lake Chad). The type locality of *dixonii* is Siam. As pointed out by both Distant and Bergroth, the first and second antennal segments and the exocorium of the hemelytra occasionally vary somewhat in color. The color variety *dixonii luteifusula* Breddin (*loc. cit.*, p. 86) is unknown. The type of the variety is not in the collection of Breddin in Berlin, and it may be lost. Its description does not fit any of the color variations seen by the authors.

Saldula subsolans, new species

Description.—Small, obovate, black with testaceous markings on corium of hemelytra; pubescence brown, dense, moderately long, brownish. Head black, strongly declivent in front, with very short pubescence; front longitudinally furrowed on median line, with apical callosities very large, greatly widened within, contiguous above clypeus; clypeus large, testaceous, strongly convex, nearly twice as long as wide, the callosity on each side of clypeus small, testaceous; gula short, black, with grayish hairs; ocelli brownish, placed on slightly raised area, approximate, separated by less than half of diameter of an ocellus; spot between each ocellus and eye large, nearly triangular in shape, yellowish, contiguous with inner margin of eye. Eyes large, dark fuscous, converging anteriorly, the area in subapical notch black. Rostrum very long, brownish testaceous, extending between hind coxae. Legs testaceous, clothed with short pale hairs, the femora becoming dark brown or fuscous apically. Antennae

long, slender, shortly pilose; segment I short, stout, largely testaceous; II brownish, longest; III and IV dark fuscous; proportions—I, 12; II (male) 23, (female) 26; III (male) 18, (female) 20; IV (male) 17, (female) 18.

Pronotum black, slightly shining, with moderately long, decumbent, brownish pubescence, deeply and broadly excavated behind, narrowed anteriorly, with margins moderately rounded and slightly reflexed, approximately two and one-half times as wide at base as median length (52:18); callus moderately swollen, convex, not extending on explanate margins, deeply and widely impressed on disc, extending a little behind middle of pronotum; furrow just back of callus rather deep, arcuate, pitted at bottom; hind lobe short, moderately convex, hardly as long as callus. Thorax beneath black, slightly shining. Abdomen beneath dark fuscous, clothed with short grayish hairs; last venter in female longer than two preceding segments, whitish apically. Scutellum subequal in width and length, black, transversely impressed before middle, finely transversely rugulose behind.

Hemelytra brownish black, a spot near apex of clavus, an apical spot and a long streak in front of middle along outer nervure of inner corium and most of exterior of outer corium flavous or testaceous; outer corium with small basal streak, an elongate spot in front of middle, a large spot within before apex and a small apical spot dark fuscous, the subapical, marginal testaceous area usually divided by a narrow, longitudinal, dark streak so as to form two large pale spots; clavus darker and more velvety than other parts of hemelytra; membrane clouded with brownish, non-hyaline, composed of four cells, the subapical spots in the cells tending to form a crossband. Legs testaceous, clothed with short, pale hairs; femora at times with slight indications of a brownish band before the apex; tibiae with usual dark spines; tarsi with last segment brown or dark fuscous.

Type (male) and *allotype* (female), Bandoeng, Java, Feb. 13, 1937, F. C. Drescher, in the collection of Rijksmuseum van Natuurlijke Historie, Leiden, Holland. Paratypes, 7 specimens, taken with type in Java, in collections of the writers and above-named Museum.

Remarks.—This species is much smaller than *Saldula javanica* (Jaczewski); it has the corium of hemelytra differently marked, and also different parameres. A right paramere of a paratype is figured.

Saldula guamensis, new species

Description.—Moderately large, male much smaller than female, ovate, the head, pronotum and scutellum somewhat shining, the hemelytra brown-fuscous, rather dull, with prominent white spots and prominent pale stripe on exterior margins; pubescence very long, with some short, dense, brown or golden hairs, Head black, broad, semi-vertical, slightly shining, with pale spot on each side next to eye opposite ocelli, with the usual six extremely long, upright, dark fuscous, bristly hairs; pubescence golden, dense, very short; ocelli slightly separated, with slight reddish tinge; front with median longitudinal furrow, on each side of furrow distinctly raised so as to form convex areas, with usual transverse callosities at apex, the callosities strongly swollen, yellowish, narrowed and meeting or nearly meeting within, distinctly arcuate, with hind surface

concave; clypeus brownish, with pale hairs, nearly twice as long as wide; labrum brown; bucculae black, aerolate. Rostrum very long, brownish testaceous, reaching beyond middle of hind coxae. Antennae moderately long, dark fuscous, shortly, densely pilose, with a few scattered bristly hairs on third and fourth segments, the first and second segments paler, brownish or yellowish brown; proportions—I, 14; II, (male) 22, (female) 26; III, 19; IV, 20. Eyes very large, converging anteriorly, with usual subapical notch on inner side, black within notch.

Pronotum black, slightly shining, densely clothed with long, brownish or golden pubescence, deeply excavated behind, moderately narrowed anteriorly, more than two and one-half times as wide at base as median length (20:55), the side margins oblique, almost straight; callus moderately large, strongly convex, not reaching on expanded lateral margins, extending posteriorly a little beyond middle of pronotum, with large, deep discal impression at middle; furrow just behind callus deep, arcuate, pitted at the bottom; hind lobe convex, shorter than callus. Scutellum similar to pronotum in color, sheen and long pubescence or short hairs, scarcely longer than wide.

Hemelytra extending beyond tip of abdomen, largely pale brownish, typically with seven, rounded, white spots on each side, the pubescence very long, dense, nearly erect, brownish or golden; clavus black-fuscous, velvety, with whitish, subapical spot, the pubescence quite golden, very long, conspicuous; clavus brownish with some yellowish, with six conspicuous white spots (two subbasal, two near the middle and other two apical), the veins broadly dark fuscous; embolium pale, semi-transparent, with sometimes brown spot beyond the middle; membrane somewhat yellowish brown, subhyaline, the three first cells with brownish streak, the outermost cell without dark spot. Abdomen beneath black, with hind margins of segments narrowly testaceous, densely clothed with grayish pile; last venter of female much longer than other segments. Legs yellowish brown, clothed with short, pale hairs; femora tending to become a little darker apically; front tibiae with dark spot at base and apex of front surface; middle and hind tarsi with short, dark brown or fuscous spine; last tarsal segment darker.

Length, (male) 3.20 mm., (female), 4.00 mm.; width (male) 1.30 mm., (female) 1.75 mm.

Type (male), *allotype* (female), Mt. Chachao, Guam, May 16, 1936, R. L. Usinger. Type in Calif. Acad. Sciences.

Remarks.—This species was wrongly determined by Dr. R. L. Usinger, *Insects of Guam*—II, Bull. 189, Bernice Bishop Museum, Honolulu, 1946, p. 1, as *Saldula balnearum* Bergroth. It differs from *balnearum* in size, oblique pronotal margins, and color and markings of the hemelytra. In general appearance, *guamensis* most closely resembles *Saldula opacula* (Zett.), but is distinguishable by its different shape, smaller size, vesture of short hairs or extremely long pubescence on dorsal surface of body. Both species have a pale marginal stripe on each hemelytron.

Saldula scitula, new species

Description.—Small, ovate, black, with pronotum and scutellum shining, the hemelytra brown-fuscous, with numerous rounded whitish spots and broad, pale, flavous stripe on outer margins. Head black, scarcely shining, with very short brownish pubescence, a spot between each ocellus

and eye flavous; bucculae black, clothed with grayish hairs; apical callosities of front narrow, contiguous within, blackish, the outer ends yellowish; clypeus brownish, convex, the small calloses on each side yellowish; ocelli scarcely raised; reddish brown, separated by less than the diameter of one of them; subapical excavation of eyes black, shining. Eyes large, black-fuscous converging anteriorly.

Rostrum brownish, testaceous basally, extending between hind coxae. Legs testaceous, with short pale hairs, the femora becoming a little darker apically; coxae largely black-fuscous, somewhat testaceous apically; hind tarsi with scattered dark brown spines. Antennae moderately long, shortly pilose; segment I pale brown or testaceous stoutest; II black-fuscous, with dark pilosity; III black-fuscous, with longer, denser, whitish pilosity; IV very broadly banded with white, with only narrow basal and narrow apical portions black-fuscous; proportions—I, 13; II, 19; III, 17; IV, 19. Venter brownish black, with grayish hairs.

Pronotum deep black, quite shining, with short, brownish pubescence and interspersed with very short, brownish hairs, deeply excavated behind, three times as wide at base as median length (54:18); sides strongly narrowed anteriorly, the outer margins slightly sinuate (nearly straight), slightly reflexed; callus moderately swollen, convex, not extending on expanded margins, deeply and somewhat transversely impressed on the disc; furrow behind callus deep, arcuate, pitted at the bottom; hind lobe moderately convex, not as long as callus. Scutellum subequal in length and width, with impression in front of middle, the pubescence, lustre and color same as pronotum.

Hemelytra velvety black, rather dull, with rather wide, pale flavous stripe on outer margins, the pubescence longer, golden, semi-reclining, also interspersed with some short hairs; clavus with an oblong spot near apex; inner corium with four, rounded, whitish spots (two marginal near outer nervure in basal half and other two in inner apical corner); outer corium with two smaller, subapical, white spots near inner boundary, the flavous stripe on outer margin moderately wide, with base and narrow tip dark fuscous; membrane brown, non-transparent, composed of four cells, cells one, two and three each with three white spots (basal, apical and median), the outermost cell with only basal and apical white spots.

Length, 3.15 mm. (male), 3.80 mm. (female); width, 1.35 mm. (male), 1.70 mm. (female).

Type (male) and *allotype* (female), Nova Teutonia, Santa Catarina, Brasil, March 13, 1950, Fritz Plaumann, in collection of C. J. Drake.

Remarks.—Separated from *S. ventralis* (Stal) by its smaller size, subequal last three antennal segments, concolorous pronotum, and numerous prominent white spots on hemelytra. Both species have the terminal antennal segment broadly banded with white or flavous. *S. ventralis* has the pronotal margins flavous, and much longer second antennal segments. It is also larger and oblong in shape.

Paper by Drake and Hottes

Three New Species of Saldidae (Hemiptera)

Fig. 1. Right paramere *S. dixonii* (Distant)

Fig. 2. Right paramere *S. scitula*, new species



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